a well grown three pounder being almost scarce. Inquiries reveal that it is met with very rarely in the commercial catches or in the markets in Bengal or Orissa. Even in the collections specially made in the Rajasthan waters, its occurrence is sporadic. Thus, these preliminary observations tend to point out that this one-time abundant game fish is now considerably reduced in its population largely due to apathy and ignorance about its value as a sporting stock. Serious efforts are, therefore, necessary to locate populations of Indian trout and to collect detailed information about its life history and possibilities of survival before it is too late to avoid its becoming extinct. Fishery Biologists in addition to their concern for food fishes should pay particular attention to this fine game fish.

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23. SOME INTERESTING METHODS OF FISHING FOR THE GIANT FRESHWATER PRAWN IN KERALA

(*With two text-figures*)

The giant freshwater prawn (*Macrobrachium rosenbergii*) known locally as *Konchu*, is in high demand and fetches handsome prices. Attracted by the high returns, people have been fishing for the species from every possible location in the backwaters, rivers and channels in central Kerala, adopting various ingenious methods.

Since some of the methods can be adopted with advantage in other parts of the country for catching the same or related species of prawns, a fairly detailed account is given.

Excepting the mode of fishing while the paddy fields are drained for cultivation or that adopted for catching the prawns hiding among submerged mangrove vegetation, in all other cases baits either dropped loose or suspended from floats are invariably used.

1. "*Koti Kuthi Veechu*" (Cast net fishing with marking poles and baits): This is the commonest method used in the Kuttanad area in Kerala. The gear used is a cast net[1] and baits dropped loose in water marking their position with long poles or *Koti*. The pole is usually the mid rachis of coconut leaves pointed at the base to facilitate fixing in mud and with a few leaflets at the free end to make it visible at night from a canoe, with a hurricane lamp fixed at its front end. Sometimes bamboo poles with a sheaf of leaves tied to the tops are also used as 'Koti'. The poles are four to five metres in length. A dug-out canoe, two men (one for rowing and the other for operating the cast net) and a cast net constitute a fishing unit (Fig. 1). About 12 to 15 marking

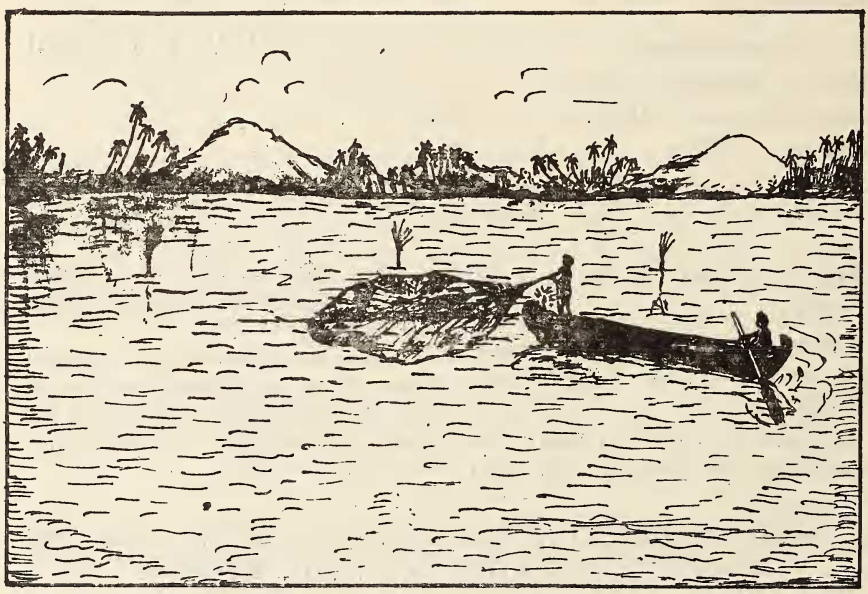

Fig. 1. Cast net fishing with marking poles and baits.

poles are used at a time and they are stacked inside the canoe or hung with sling ropes along the sides if the canoe is small. Raw tapioca (*Manihot utilissima*) or coconut oil-cake is used as bait. The latter is dropped as small pieces whereas the former is made into a coarse powder with the help of a grater made by perforating a tin plate with closely set nail holes. The paste made from the grated tapioca is rolled into small balls by hand. Like coconut oil-cake this has the advantage of spreading slowly when dropped to the bottom. The marking poles are planted in a row about 10 to 15 m apart after selecting a suitable stretch

[1] The measurements of cast net in common use are: mesh size – 1″, radius of the net 14-15′ and a circumferance of about 60-65′.

of the river or backwater with depths varying from 3 to 4 m and without any strong currents or eddies. The bait is dropped loose on one side of the pole at a convenient distance so as to allow sufficient space for operating the net. Baits are always put on the same side of all the poles in the row so that the canoe can be directed straight along one side while fishing. After allowing sometime for the prawns to approach the baits the net is cast above the baits. When the catch is quite good from an area, baits are dropped again and the net operated at the same spot without removing the poles from their original position. Sometimes fishing is done even without dropping the baits a second time. This type of fishing is carried out usually during the small hours of the morning when the prawns come out for feeding. Some fixed points along the shore or permanent structures in the water such as electric poles, pillars of jetties etc., are also used as land-marks for dropping baits.. Tapioca has been found more effective than coconut oil-cake in attracting prawns. One night's catch may be anything between 1 and 12 kg.

2. *Fishing with baits and floats*: This type of fishing is practised in deeper areas where the depth may be 6 to 8 m. Solid baits (boiled pieces of tapioca or coconut kernal) are tied to one end of a rope or string and a float or *Ponthu* (usually cut pieces of banana stem) to the other. A stone of suitable size is tied to the bait as a sinker to keep the bait a little above the bottom and to anchor it at a spot. A number of such baited sets are dropped at intervals of 7 to 10 m in a row. The floats in this case serve also as markers. But where there is a surface current the float will be drifting to one side and the net is cast taking into account the direction of the current and the position of the bait in relation to the float. In still and shallow waters the net is cast right over the float. This type of fishing is done during the day time.

3. *Fishing with "Ottal"*: Another type of gear used is "Ottal".[2] This is a contrivance made of fine bamboo strips lashed together in the form of a truncated cone open at both ends. This is the same as *Thapa* (Plunge basket) described by Chauhan (1946) and as *Poluha* or *Polo* (cover basket) by Job & Pantulu (1953). These are used in shallow areas especially in the flooded paddy fields where the depth may not exceed 1 m. Here again solid baits, usually boiled tapioca or coconut kernal are used. The flesh of greshwater apple snail, *Pila globosa* is also commonly used. These are tied to small floats made of cut pieces of the stalk of banana leaf. A small stone is tied for anchoring and keeping the bait a little above the bottom (Fig. 2 inset). The fisherman

[2] The measurements of *Ottal* commonly used in this area are: Upper opening diameter—18 cm, lower diameter—75 cm, slanting side length—95 cm. The bamboo strips are also closely bound together so that the gaps between them may not exceed a few mm.

carries the *Ottal* and the floated baits in a canoe and drops the baits at regular intervals (Fig. 2). The float wobbles up and down when

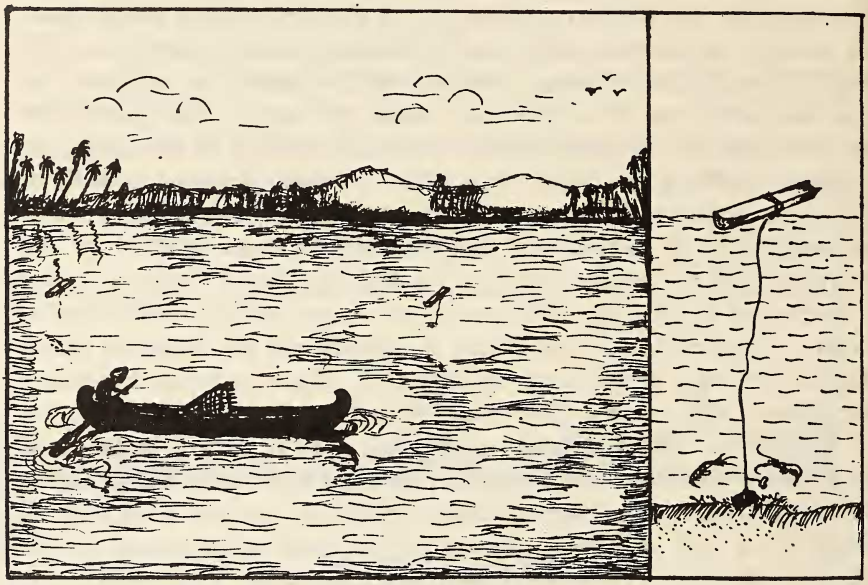

Fig. 2. Fishing with 'Ottal'.

a prawn nibbles at the bait and when the prawn gets at the bait with its pincers one end of the float remains dipped. Since this type of fishing is carried out during day time, movement of the float can be seen from a distance and the fisherman quietly approaches it in his canoe and plunges the *Ottal* over it. Prawns are taken out with hands or even with the legs where the depth is more.

4. *"Vativala" and "Vattavala"*: *Vativala* is a drag net with a rectangular mouth across which sticks are attached transversely to keep it open and the net is operated by two men holding to the side sticks which are stouter than the others. This net is operated in shallow areas. *Vattavala* is a pouch net with a semi-circular mouth fitted with a bamboo frame of similar shape and is operated by two men in shallows, especially among submerged mangrove vegetation. The net is set near the vegetation and the water disturbed in such a way that the prawns hiding among the plants while trying to escape will get caught in the net. These vegetation are also encircled by the drag net *Vativala* and all the hiding prawns caught by disturbing the plants. *Vattavala* is also used for catching fishes and prawns from paddy field when the water is pumped out in preparation for cultivation.

Though these prawns are caught occasionally in stake nets and chinese dip nets during their sojourn in the backwaters they do not

form a major item in their catches at any time.

M. rosenbergii is also taken by hook and line in some areas of Vembanad lake between Vaikom and Cochin especially during their breeding season. It is also common practice to catch them from their hide-outs inside the crevices of stones and bunds by means of long metallic hook or pin. The prawns are impaled and taken out.

Evolving new baits by mixing some flavour or fish meal with the baits to attract the prawns easily and also studies on the relative efficiency of the various types of baits are lines of work worth considering in view of the great economic importance of the fishery.

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